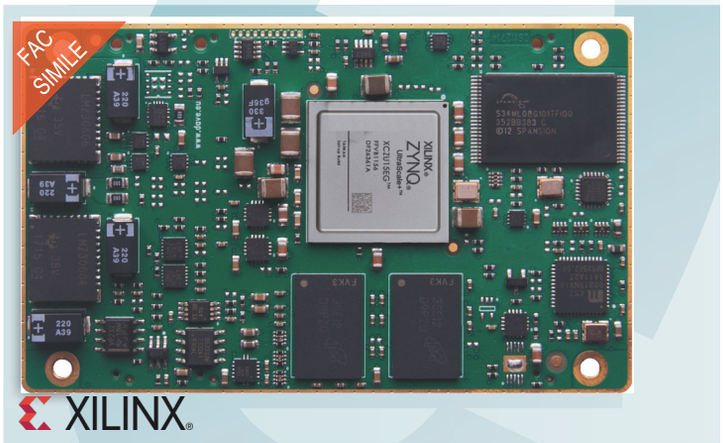
ULTRA LINE

ONDA

XILINX ZYNQ UltraScale+ MPSoC SYSTEM ON MODULE

- Up to 4 ARM® Cortex™- A53 Processor
- Two ARM Cortex™- R5 Real-time Processors
- ARM Mali™- 400 Graphic Processing Unit
- Platform Management Unit for Power and Safety Management
- Config and Security Unit
- Programmable Logic with High Speed Tranceivers
- H264 / H265 video codec
- DDR4 memory on board up to 64bits bandwith
- Pinout matching with BORA product line
- Designed for industrial environment
- CG/EG/EV support from ZU2 to ZU5 families



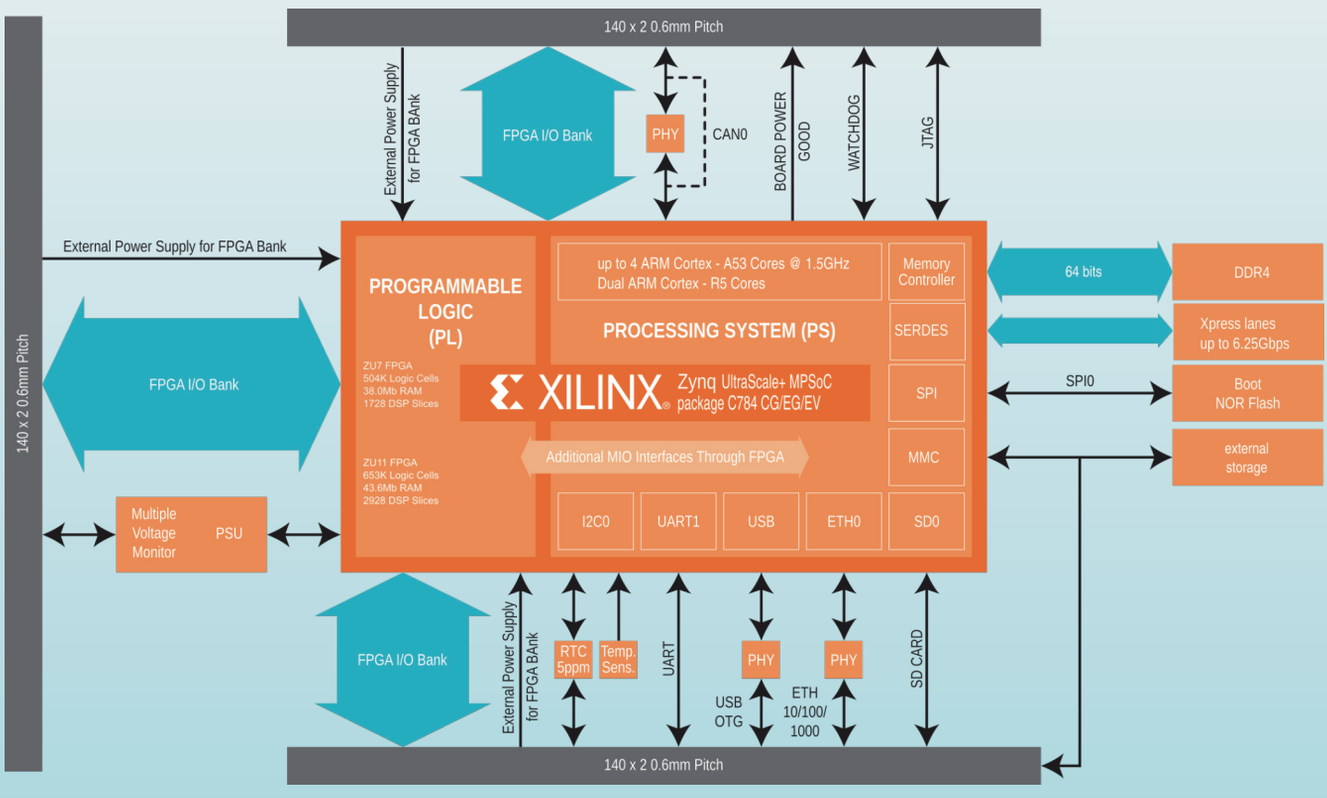
PRELIMINARY INFORMATION

In the new era of Internet Of Things, customers are requiring to add connectivity and new functionalities on their products. Customers are also keen to product longevity and hardware/software maintenance. For these reasons DAVE Embedded Systems has designed a new solution based on Xilinx Zynq® UltraScale+™ MPSoC devices that is compatible with the existing BORA System On Module based on Xilinx Zynq® MPSoC.

Xilinx Zynq® UltraScale+™ MPSoC devices provide 64-bit processor scalability while combining real-time control with soft and hard engines for graphics, video, waveform, and packet processing. Built on a common real-time processor and programmable logic equipped platform, three distinct variants include dual application processor (CG) devices, quad application processor and GPU (EG) devices, and video codec (EV) devices, creating unlimited possibilities for applications and Industrial Internet-of-Things. Zynq UltraScale+ MPSoC provide up to 5X system-level performance-per-watt compared to the Zynq-7000 SoC family. Zynq UltraScale+ devices combine a high-performance ARM-based multicore, multiprocessing system with ASIC-class programmable logic.

Dual- and quad-core application processor equipped devices deliver maximum scalability, and are capable of offloading critical applications, such as graphics and video pipelining, to dedicated processing blocks, along with a full complement of integrated peripherals and connectivity cores suitable for next-generation systems. For the most compute intensive processing tasks, integrated programmable logic offers up to 100X performance improvement over processor-based implementations. Dramatic power savings are achieved through fine-grained control of power domains and gated power islands. With specialized processing elements for different workloads, Zynq UltraScale+ MPSoCs integrate the right engines for the right tasks for next-generation embedded challenges.

With this design, DAVE Embedded Systems priovides its customers with a platform that benefits of the latest Xilinx technology together with the compatibility with the existing SoM product line. Business continuity and product maintenance are the key words around this product including high reliability options like conformal coating, sealing and lead process manufacturing for avionic and defense applications.



PRELIMINARY INFORMATION

CPU

up to 4 ARM Cortex-A53 ZYNQ @ up to 1.5GHz
Two ARM Cortex - R5 Cores
SOC package: C784, supported devices:
ZU2-3-4-5CG, ZU2-3-4-5EG,ZU4-5EV

Co-Processor

Only on EV devices:
ARM Mali-400 MP2 Graphics Processing Unit
Video Codec Unit for H264/265 4K video streams

Supervisor

On-board power supply supervision
and power sequencer
Watchdog and RTC

Memory

SDRAM	DDR4 technology @ 64bits, TBD supported sizes
NOR	Bootable SPI NOR, TBD supported sizes
External Storages	TBD (NAND SLC or eMMC)

Interfaces (full-spec models) *

LAN	Fast Ethernet 10/100/1000 Mbps Additional RMII interface
UART	up to 2x UART ports
USB	up to 2 x 2.0 OTG ports
CAN	up to 2 x CAN
Debug	JTAG IEEE 1149.1 Test Access Port
Other	TBD SD/SDIO 2.0/MMC 3.31 compliant controllers up to TBD x I2C channels up to TBD x SPI channels GPIO available

FPGA

Model	ZU2 FPGA	ZU3 FPGA	ZU4 FPGA	ZU5 FPGA
Logic Cells	103K	154K	192K	256K
RAM	5.3Mb	7.6Mb	4.5Mb	5.1Mb
DSP Slices	240	360	728	1056
Tranceivers	TBD - max bandwidth 6.25Gbps each			
Speed Grade	-1, -2L, -2, -3, -1M			

Mechanical

Connectors	3 x 140 pin 0.6mm pitch
Size	90x55mm - temptative to be footprint compatible with BORA Xpress but overall size should be bigger
Temperature	Commercial, Industrial - up to defense grade. Cooling system required (depends on design)
Coating	Support for Humiseal 1B73 conformal coating
Process	Support for Sealing and Leaded process

PSU

Input	3.3V, on-board voltage regulation
FPGA banks	PSU can be provided externally

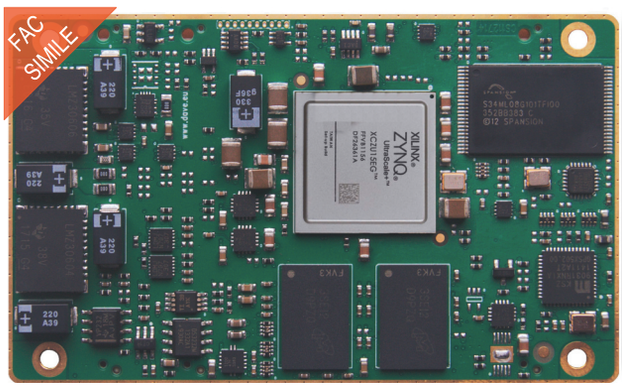
Software

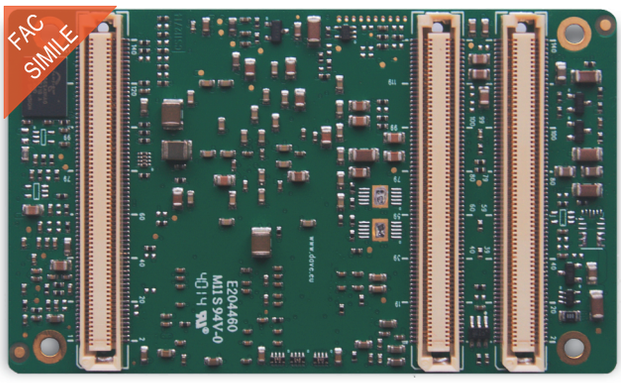
Bootloader	U-Boot, TBD support for VX Works bootloader
O.S.	Linux 4.x.x and Vivado, TBD support for other O.S.
RTOS	TBD support for VxWorks - under discussion

Evaluation Kit

The ONDA evaluation kit will be available as a developement platform that includes a SOM, a carrier board which permits to test part of board capabilities.

*: interface availability depends on pin multiplexing.
Please contact your local FAE.





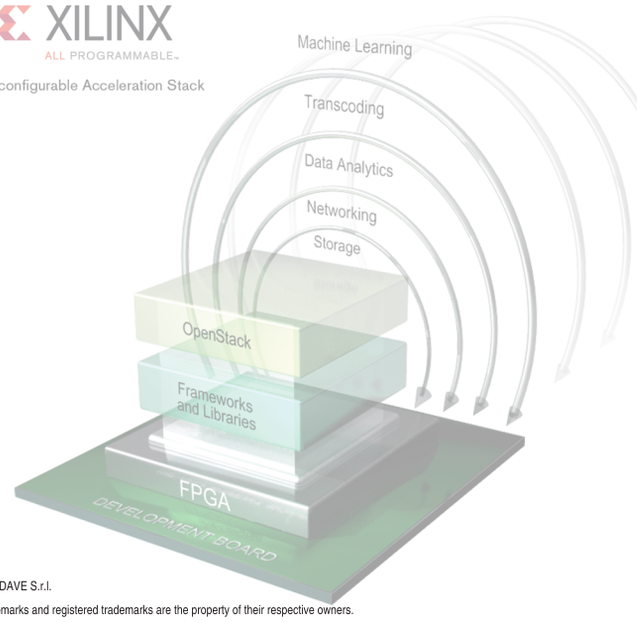
Product code configurator *

Family	*Processor*	*NOR flash*	*DDR4 RAM*	*Storage*	*TBD*	*TBD*
DND						

ORDERING INFORMATION
NOT YET AVAILABLE

The availability of part numbers depends on effective availlability of Xilinx part numbers

XILINX
ALL PROGRAMMABLE™
Reconfigurable Acceleration Stack



DAVE Embedded Systems

DAVE S.r.l.
Via Talponedo, 29/A
33080 Porcia (PN) - ITALY
Ph +390434921215
Fax +3904341994030

www.dave.eu
wiki.dave.eu
sales@dave.eu
support-onda@dave.eu

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